

WE CLAIM:

1. A same potential block comprising:

a main body having a plurality of holes formed therein;

a first metal piece, including a first carrier strip located adjacent to said main body and a plurality of first clips extending from said first carrier strip, each of said plurality of first clips positioned within a corresponding hole of said plurality of holes formed in said main body; and

an exterior contact portion protruding from the main body and connected to said first metal piece to form a connector mating structure,

wherein said carrier strip maintains the same potential across each of said plurality of clips and a connector ground connected to the exterior contact portion and said plurality of first clips are adapted to receive terminal portions of wires to thereby keep the wires at the same potential.

2. The same potential block of claim 1, wherein the contact portion forms a mating structure for a D-Subminiature connector.

3. The same potential block of claim 1, wherein

said main body has an elongated hollow formed on an elongated side in which said first carrier strip is positioned and has a slot formed on each end of said elongated hollow; and

said exterior contact portion is joined to ends of said first carrier strip through the slots formed in said main body.

4. The same potential block of claim 1, wherein

said carrier strip includes a contacting surface adapted to contact a first connector and

said exterior contact portion forms a rear mating structure for a D-Subminiature connector.

5. The same potential block of claim 1, wherein

said exterior contact portion includes two side portions extending in a direction substantially perpendicular to a direction in which said first carrier strip extends and

said same potential block further comprises, at each of said two side portions of said external contact portion, means for connecting said exterior contact portion to said main body.

6. The same potential block of claim 1, wherein said exterior contact portion includes two side portions extending in a direction substantially perpendicular to a direction in which said first carrier strip extends, and

said same potential block further comprises an eyelet for connecting the two side portions of said exterior contact portion to said main body.

7. The same potential block of claim 1, wherein said main body is made of a polymer material.

8. The same potential block of claim 1, wherein the same potential block is a grounding block, and said carrier strip maintains a ground potential across each of said plurality of clips.

9. The same potential block of claim 1, wherein the same potential block is a bussing block for carrying a constant positive or negative potential.

10. The same potential block of claim 1, wherein the same potential block is a bussing block for carrying signals.

11. The same potential block of claim 1, further comprising:
a second metal piece, including a second carrier strip located adjacent to said main body, a plurality of second clips extending from said second carrier strip, each positioned with a corresponding hole of said plurality of holes formed in said main body to mate with a corresponding one of said plurality of first clips thereby forming a pair of a first clip and a second clip within each hole formed in said main body.

12. The same potential block of claim 11, wherein within each of said plurality of holes formed in said main body, said pair of a first clip and a second clip form a female connector portion for receiving a terminal pin connected to a wire.

13. The same potential block of claim 11, wherein

said plurality of holes formed in said main body are elongated in a first direction, and

each clip of said plurality of first clips and said plurality of second clips is elongated in said first direction and includes a locking tang extending towards the center of the corresponding hole from an intermediate portion of the clip and a contacting tang extending towards the center of the corresponding hole, each clip extending from said carrier strip and terminating with said contacting tang,

wherein in each of said plurality of holes formed in said main body, locking tangs of a pair of a first clip and a second clip are flexible to allow insertion of a terminal pin of a wire and have end portions to engage a projection of the terminal pin of the wire to interrupt removal of the terminal pin of the wire,

wherein, in each of said plurality of holes formed in said main body, contacting tangs extend to contact a conducting portion of the terminal pin of the wire.

14. The same potential block of claim 11, wherein each clip of said plurality of first clips and said plurality of second clips is elongated in a direction perpendicular to said first carrier strip and has an arcuate cross section in a direction parallel to the first carrier strip.

15. The same potential block of claim 11, wherein said first carrier strip is flat; and said second carrier strip has a cross section in a direction in which said second carrier strip extends including a plurality of adjacent "U" shapes.

16. The same potential block of claim 11, wherein said main body includes a hollow having a first surface, each of said plurality of holes formed in said main body includes a first cylindrically formed hole having a first diameter and a second cylindrically formed hole having a second diameter, said first cylindrically formed hole extending from said first surface of said hollow to said second cylindrically formed hole, said first and second cylindrically formed holes

being coaxial, and said first diameter being larger than said second diameter.

17. The same potential block of claim 11, further comprising:

a cap having a plurality of holes formed therein, connected to said main body such that the plurality of holes of said cap align with the plurality of holes of said main body.

18. The same potential block of claim 17, wherein said main body and said cap are made of a polymer material.

19. The same potential block of claim 17, wherein

said main body includes a hollow portion having a first surface at which said plurality of holes formed within said main body terminate and said cap is positioned within said main body.

20. The same potential block of claim 19, wherein said cap and said main body are affixed to one another.

21. The same potential block of claim 20, wherein the cap and main body are glued together.

22. The same potential block of claim 20, wherein said cap and said main body are ultrasonically welded together.

23. The same potential block of claim 20, wherein said hollow portion of said main body includes projections along surfaces extending from said first surface, and

said cap rests upon upper surfaces of said projections.

24. The same potential block of claim 19, wherein said cap abuts said first surface of said hollow portion and is frictionally engaged with said hollow portion of said main body.

25. The same potential block of claim 24, wherein

said first carrier strip of said first metal piece and said second carrier strip of said second metal piece are positioned between said first surface of said hollow portion of said main body and said cap.

26. The same potential block of claim 25, wherein

said cap includes a wedge shaped slot wherein portions of said first and second carrier strips are positioned within the slot, wherein

when said cap is pushed into the hollow of said main body, said portions of said first and second carrier strips located within said wedge shaped slot are forced together.

27. The same potential block of claim 11, wherein
said first carrier strip is flat; and
said second carrier strip has a plurality of projections extending from a side from which said plurality of clips extend from said second carrier strip,

wherein said plurality of projections contact said first carrier strip.

28. The same potential block of claim 27, wherein
said plurality of projections extending from said second carrier strip are springs.

29. The same potential block of claim 28, wherein
said plurality of projections extending from said second carrier strip have an "S" or "Z" shape.

30. A method of making a same potential block having a main body, comprising:

(a) stamping a first metal piece from a first sheet of metal, said first metal piece including a first carrier strip and a plurality of first clips extending from said first carrier strip, and an external contact portion protruding from the first metal piece to form a mating structure for a connector; and

(b) inserting said plurality of first clips into a plurality of holes of the main body of the same potential block.

31. The method of claim 30, including forming the external contact portion is formed to form a mating structure for a D-Subminiature connector.

32. The method of claim 30, further comprising:

(c) stamping a second metal piece from a second sheet of metal, said second metal piece including a second carrier strip, and a plurality of second clips extending from said second carrier strip;

(d) inserting said plurality of second clips into said plurality of holes of said main body.

33. The method of claim 32, further comprising:

(e) during step (b), positioning said first carrier strip within a hollow formed in said main body;

(f) during step (d), positioning said second carrier strip within said hollow formed in said main body; and

(g) inserting a cap into said hollow of said main body, said cap having a plurality of holes aligning with said plurality of holes formed in said main body.

34. The method of claim 33, wherein

step (g) includes pressing portions said first carrier strip against portions of said second carrier strip by forcing said portions of said first and second carrier strips into wedge portions of said cap.

35. The method of claim 34, further comprising:

(h) attaching a pin to a ground shield wire of a cable;

(i) inserting the pin into one of said plurality of holes formed in said main body to create an electrical connection between said ground shield wire and said exterior contact portion.

36. The method of claim 35, further comprising:

(j) removing the pin inserted in step (i) with a jig.

37. The method of claim 34, further comprising:

(h) physically attaching and electrically connecting said same potential block to a connector.

38. The method of claim 37, wherein

step (h) includes attaching said same potential block to a D-Subminiature connector.

39. A same potential block comprising:

receiving means for receiving terminal portions of wires;

a main body means for housing the receiving means;

external contact means for mating with a connector; and

a metal bussing means for connecting the receiving means and the external contact means,

wherein the metal bussing means maintains the same potential across the terminal portions of the wires and the connector connected to the external contact means.